PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent appln. of: Keith C. Hong, et al.

Appln. No: 10/600,847

Filed: June 20, 2003

For: **ALGAE RESISTANT ROOFING GRANULES WITH CONTROLLED ALGAECIDE LEACHING RATES, ALGAE RESISTANT SHINGLES, AND PROCESS FOR PRODUCING SAME**

GAU: 1762

Examiner: Elena Tsoy

Docket No: 008-02

Certificate of Mailing
Date of Deposit: January 18, 2006

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P.O. Box 1450
Alexandria, VA 22313-1450
on January 18, 2006

Alex R. Sluzas, Reg. No. 28,669

Mail Stop Amendment
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL SHEET

Sir:

Enclosed and attached hereto are the following documents for filing in the U.S. Patent and Trademark Office:

1. This transmittal letter in duplicate;

2. Declaration Under Rule 131 (37 C.F.R. § 1.131) and;

3. Acknowledgment postcard to be date-stamped and returned to Paul & Paul.

The Commissioner is hereby authorized to charge any additional fees associated with this communication, or credit any overpayment, to Paul & Paul Deposit Account No.16-0750, Order No. 3701.

Respectfully submitted,

January 18, 2006

Alex R. Sluzas
Registration No. 28,669

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Order No. 3701

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent appln. of : Keith C. Hong, et al.

Appln. No: 10/600,847

Filed: June 20, 2003

For: **ALGAE RESISTANT ROOFING GRANULES WITH CONTROLLED ALGAECIDE LEACHING RATES, ALGAE RESISTANT SHINGLES, AND PROCESS FOR PRODUCING SAME**

Group Art Unit: 1762

Examiner: Elena Tsoy

Docket No: 008-02

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Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER RULE 131 (37 C.F.R. § 1.131)

As an inventor of the subject matter claimed in the above-referenced patent application, I declare the following:

1. Figures 1 and 2 appended hereto are electron micrographs of algae-resistant granules produced before November 27, 2002 by the process of Example 5 of the disclosure of the above-referenced patent application.

2. Exhibit A hereto is a copy of page 56 of the laboratory notebook of Keith Hong, pages 58-59 and 70-75 of the laboratory notebook of Mr. Justin Scanlon, working under the direction of Keith Hong, and pages 7, 38 and 48 of the laboratory notebook of Mr. Adam Wolfgang, working under the direction of Keith Hong, and recorded before November 27, 2002 showing preparation of the algae-resistant roofing granules of Figures 1 and 2. Date information has been redacted.

3. Figure 3 appended hereto is an electron micrograph of algae-resistant granules produced before November 27, 2002 by the process of Example 4 of the disclosure of the above-referenced patent application.

4. Exhibit B hereto is a copy of nine pages from the laboratory notebook of Keith Hong showing preparation of the algae-resistant roofing granules of Figure 3. Date information has been redacted.

5. Figure 4 appended hereto is a photograph taken before November 27, 2002 of a test roof prior to the application of shingles thereto, showing the intended locations for installing various types of test and control shingles. The areas marked "NW T-1" and "NW T-2" are marked for the installation of asphalt shingles manufactured using algae-resistant granules made according to the process of present invention at applicants' assignee's Norwood manufacturing facility.

6. Figure 5 appended hereto is a photograph taken before November 27, 2002 of the test roof of Figure 4 subsequent to the installation of shingles thereon. Asphalt shingles manufactured using algae-resistant granules made according to the process of the present invention at applicants' assignee's Norwood manufacturing facility have been applied to the test roof at the locations indicated in Figure 4.

7. Exhibit C hereto is a copy of a manufacturing record evidencing the production of the algae-resistant granules used to manufacture the asphalt shingles installed in the area marked "NW T-1." (or T-1) Date information has been redacted.

8. Figure 6 appended hereto is a photograph taken before November 27, 2002 of an exterior exposure test station subsequent to the installation of shingles thereon. Asphalt shingles manufactured using algae-resistant granules made according to the process of the present invention at applicants' assignee's Norwood manufacturing facility have been applied to the exterior exposure station.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 or the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Inventor's signature: _____
Keith C. Hong

Date: Jan. 13, 2006

Inventor's signature: _____
Husnu M. Kalkanoglu

Date: 1/16/2006

Inventor's signature: _____
Ming L. Shiao

Date: 1/13/2006

LABORATORY NOTEBOOK

Notebook No.: KH-1

Assigned to: Keith Hong

Date: _____

Rev. 1993

PROJECT Pore Inducers in Algae-Resistant Granules

Notebook No. _____

Continued From Page _____

In order to improve + enhance diffusion of Cu + Zn ions from the inner layers of the algae-resistant granule, one needs to provide open channels within the copper + zinc oxide layer. One idea is to add pore induc

My dear Vitrified Veterans,

Who has an answer for our former Organic friend? See below.

My first reaction would be bubbled alumina, although it would result in closed porosity. If closed porosity is not a problem, perhaps glass spheres would offer a more controlled size distribution.

Mike

-----Original Message-----
From: Hong, Keith C.
Sent:
To: Mahoney, Michael
Subject: Pore Inducers

Hi Mike,

Long time no see. How is everything ? I understand you guys are busy with the World Meetings lately, hope it all goes well.

Have a question on pore inducers. I am interested in some sort of compounds that would introduce porosity into my coating in a controlled manner. The coating consists of sodium silicate, clay and pigments, and is generally fired at 900 °F. The thickness is 10-30 microns. What types of pore inducers would you recommend ?

Thanks a lot

Keith Hong
Phone (610) 341-6204

Read and Understood By

Keith Hong
Signed

Date

Signed

Date

PROJECT Pore Inducers in Notebook No. _____

Continued From Page _____

Algae-Resistant Granules

In order to improve + enhance diffusion of Cu + Zn ions from the inner layers of the algae-resistant granules, one needs to provide open channels within the copper + zinc oxide layer. One idea is to add pore inducers into the layer. The pore inducers are usually organic materials which would burn off or evaporate during the firing of the granules, at 925°F nominal temperature.

Will discuss this idea with our friends at the Alexandria Branch since they use walnut shell and other natural materials as pore inducers in vitrified grinding wheels.

Continued on Page

Read and Understood By

Signed _____ Date _____ Signed _____ Date _____

LABORATORY NOTEBOOK

Notebook No.: ONE

Assigned to: Justin W Scanlon

Date: _____

Rev. 1993

Copper Granules Method: 3M, 45, 356, 644

1st coating JWSL-58A

Raw Materials	WT (G)
#11 Wyenthane Slate Clay	1000.00
Cu_2O (Purple Copper Hill, 5355,	30.00
ZnO (Zinox 354, 0229,	35.0285
Sodium Silicate (50%, Oxychem 42)	1.7544
Water	40.02
	19.5

Fired at 900°F

2nd Coating

Raw Materials	WT (G)
#11 Wyenthane Slate Clay	800.00
Cu_2O (Purple Copper Hill, 5355,	24.02
ZnO (Zinox 350, 0229,	28.0252
Sodium Silicate (50%, Oxychem 42) 3.00 +2.016	+.2002
Cr_2O_3 ( )	1.2016
Water	15.21

Fired at 900°F

3rd Coating - NW Sl Black

Raw Materials		WT(G)
Clay		
#11 Wyenthane Slate	7.52	~~10.03~~
~~ZnO (Zinox 350, 0229,~~		750.00
Sodium Silicate (50%, Oxychem 42)		16.88
Carbon Black ( )	2.1575	~~2.7754~~
Water		7.59

Fired at 750°F

Continued on Page

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Signed Date Signed Date

Method 3M # 5,356,664 (Oct 18, 94

1st Coating jWS 1-58-A

Raw Materials

	WT (g)
#11 Wrentham Slate	1000.01
Clay ([redacted])	~~35.0069~~ 30.00
Cu_2O (Purple Copp HP II, 5359, [redacted]	35.0062
ZnO (Zinox 350, 0229, [redacted]	1.7548
Sodium Silicate ([redacted]it, oxychem 421	42.05
Water	18.50

Fired at ~~7~~50°F

2nd Coating

Raw Material

	WT (g)
#11 Wrentham Slate	750.04
Clay ([redacted]	22.52
Cu_2O (Purple Copp HP III, 5359, [redacted])	26.2520
ZnO (Zinox 350, 0229 [redacted]	1.3125
Sodium Silicate ([redacted], oxychem 421	28.14
Water	14.21

Fired at 750°F

3rd Coating NW 51 Black

Raw Materials

	WT (g)
Clay ([redacted]	7.52 ~~75~~
#11 Wrentham Slate	750.01
Sodium Silicate ([redacted], Oxychem 421	18.30
Carbon Black ([redacted]	2.1572
Water	7.62

Continued on Page

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Signed [signature] Date Signed Date

PROJECT New Kiln Firing — Notebook No. ONE

Continued From Page 69

AR Granules jUS1-70-A — *New formula — ~~trying~~ trying new amount of copper — Sodium silicate, water, etc.

Round 1

Raw Materials — WT(g)

	#11 Wrentham Slate [redacted]	
↓282	Clay [redacted]	1000.00
	Cu_2O (Purple Type HP3, Lot# 5754, Chemet [redacted])	22.50
⌀	ZnO (Kadox-920, Lot# 011085 [redacted], ZCA)	23.0210
↓282	Sodium Silicate (Oxychem 42, [redacted])	1.7543
↓282	Water	30.01
		14.90

Fired at 650°F

Round 2 ~~AR~~ 71 TONER AR Granules

Raw Materials — WT(g)

#11 Wrentham Slate	850.00
Air Floated Clay [redacted]	17.00
Cr_2O_3 Green GN [redacted]	0.1484
12 Nred ([redacted])	0.2981
Zinc Pewter Tan 8488X ([redacted])	2.7604
Copper to Cerium Oxide [redacted]	0.8387
Sodium Silicate (Oxychem 42, [redacted])	26.60
Water	6.02

AR Granules (w/ sprinkles) jUS1-70-B

Raw Materials — WT(g)

#11 Wrentham Slate [redacted]	500.00
Air Floated Clay	15.00
Cu_2O (Purple Type HP3, Lot# 5457, Chemet [redacted])	17.6705
ZnO (Kadox-930, Lot# 011085, 87+/-, ZCA)	0.8752
Sodium Silicate (Oxychem 42, [redacted])	20.02
Water	9.81
* Sprinkles (Cake Mate, Nonpareils Decors)	6.04

Fired at 650°F

Continued on Page 71

Justin O Scanlon
Signed — Date

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Signed — Date

AR Granules (w/ Sprinkles) JWSL-71-A

Raw Materials

	WT (g)
#11 Wrentham Slate	500.01
Air Floated Clay	15.00
Cu_2O (Purple type HP3 Lot# 5454 Chemat	17.6773
ZnO (Kadox-930, Lot# 01085, ZCA)	0.8755
Sodium Silicate (Oxychem 42,	20.00
Water	9.52
* Sprinkles (Cake Mate, Non-pareils Decors)	15.01

Fired at 650F

AR Granules (w/ large sprinkles) JWSL-71-B

Raw Materials

	WT (g)
#11 Wrentham Slate	500.00
Air Floated Clay	15.00
Cu_2O (Purple type HP3, Lot# 5454, Chemat)	17.6771
ZnO (Kadox 930, Lot# 01085, ZCA)	0.8754
Sodium Silicate (Oxychem 42,	20.01
Water	9.50
* Sprinkles (Cake Mate, Rainbow Decors)	15.01

Fired at 650F

AR Granules (w/ raw Sugar) JWSL-71-C

Raw Materials

	WT (g)
#11 Wrentham Slate	500.00
Air Floated Clay	15.00
Cu_2O (Purple type HP3, Lot# 5454, Chemat)	17.6777
ZnO (Kadox-930, Lot# 01085, ZCA)	0.8754
Sodium Silicate (Oxychem 42,	20.00
Water	9.50
* Superfine Cane Sugar (Domino Sugar)	15.01

Continued on Page 72

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Justin W Scarlett
Signed Date Signed Date

AR Granules (w/ Regal Bleed) jws1-72-A

Raw Materials

	wt(g)
#11 Wrentham Slate	500.00
Air floated Clay	15.01
Cu_2O (Purple type HP3, Lot# 5454, Chemet)	17.6759
ZnO (Kadox-930, Lot# 011085, 2 CA)	0.8756
Sodium Silicate (Oxychem 42)	20.01
Water	9.62
* Regal Bleed 400 (Celest)	15.01

Fired at 650°F — 400 mesh Regal 400 could not use

AR Granules (w/ crushed walnuts) jws1-72-B A
#3

Raw Materials

	wt(g)
#11 Wrentham Slate	500.00
Air floated Clay	15.01
Cu_2O (Purple type HP3, Lot# 5454, Chemet	17.6750
ZnO (Kadox-930, Lot# 011085, 2 CA)	0.8743
Sodium Silicate (Oxychem 42)	19.99
Water	9.61
* Crushed Walnut (#3 shell)	15.02

Fired at 650°F

AR Granules (w crushed walnuts #5) jws1-72B

Raw Materials

	wt(g)
#11 Wrentham slate	500.01
Air floated Clay (Same as above)	15.00
Cu_2O (" ")	17.67 89
ZnO (" ")	0.8750
Sodium silicate (" ")	20.01
water	9.59
Crushed walnuts (#3 shell)	15.00 g

Fired at 650°F

Continued on Page 73

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Justin W Scuda

Signed — Date — Signed — Date

All Granules, ~~1st Coating~~ 1st Coating — LWS 1-73-A
Runs 3M formula for 1st Coating

Raw Materials		WT(S)
Extruded Granules (CH 30 Clay 15%, Stone Dust 75%)		330.00
Sodium Silicate (" " " 4%		40.00
Air Floated Clay (" " "	30.00	~~19.98~~
Water		19.98
Cu_2O (Purple Type HP, Lot# 5454 Channel " ")		35.0625
ZnO (Kadox-911 Lot# 811005 " " " 2CA)		1.75%

Fired at 650°F

2nd Coating — 0.662 of 1000S

Raw Material		WT(S)
Extruded Granules (from 1st Coating)		330.00
Air Floated Clay (" " ")	19.82	~~1.97~~
Cu_2O (Same as above)		23.1078
ZnO (" " ")		1.1560
Sodium Silicate (" " ")		24.75
Water		12.62

Fired at 650°F

3rd Coating — NW-5C BLACK

Raw Material		WT(S)
Extruded Granules (from first Coating)		360.01
Air Floated Clay (Same as above)		7.21
Sodium Silicate (" " ")		12.29
Laporte Carbon Black		1.0357
Water		2.62

Total Lbs. $\frac{58}{330} = 17.6\% \Rightarrow$ 255 Lb/ton granules

Continued on Page 74

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AR Granules (LH 040-2) for NW-5 | BLACK JLS-74-A

Raw Materials

	wt (g)
LH 040-2 AR Granules	398.60
Air floated Clay ( )	7.97
Expanded Coke Black ( )	15.25
Sodium Silicate (Oxychem 42, 2.40-0C-2.4A)	12.48
Water	2.98

Fired at 650°F

AR Granules (w/ walnut shells, #4) JLS-74-B

Raw Materials

	wt (g)
#11 Wrentham Slate (	500.00
Air floated Clay (same as above)	15.01
Sodium Silicate (" " ")	19.93
Cu2O (Purple type HP3, Lot # 5454 chemet	7.47
ZnO (Kadox-930, Lot # 011085	0.43
Water	9.21
Walnut shells (#4 shell)	1000

Fired at 650°F

AR Granules JLS-74-C *new formula - one coating copper

Raw Materials

	wt (g)
#11 Wrentham Slate	1000.00
Clay	22.50
Cu2O (Purple Type HPS Lot # 5454 chemet)	23.0102
ZnO (Kadox 930 Lot # 011085	1.15 15
Sodium Silicate (Oxychem 42 2C-1) 2A-1)	30.02
Water	14.90

fired at 650°F

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All Granules, new formula (Continued from ~~page only~~ 1-74-
2nd Coating - NW BLACK JWS1-74-C

Raw Materials	LT (g)
AR Granules (JWS1-74-C)	300.01
Air floated Clay	18.01
Lamp Carbon Black (")	2.58 ÷ 2
Sodium Silicate (Oxydex 4A)	28.73
Water	6.38

Fired 650°F

Extruded granules:

① LH040-2 ⇒ JWS1-74A

3300 granules, 11.55 g Cu20 x 2, NW51 blue

② JWS1-73A

330 g granules, 35 g Cu20 + 23 g Cu20, NW51 blue

Continued on Page

Read and Understood By

Justin V Scarlo
Signed Date Signed Date

LABORATORY NOTEBOOK

Notebook No.: One

Assigned to: Adam Wolfgang

Date: ____

email: alw29@drexel.edu

Cell phone: 570-265-3249

Continued From Page

Copper Coated Granules alw1-7-A (same as jws1-68-A)

1st Coating

Raw Materials

	Wt (g)
#11 Wrentham Slate ( )	1000.00
Clay ( )	30.01
Cu_2O (Purple Type HP3, Lot #5454, Chemet)	35.0270
ZnO (Kadox-920, Lot# 011085, ZCA)	1.7512
Sodium Silicate (OxyChem 42,)	40.01
Water	19.64

Fired At 650°F

- granules were clumpy after first coating

2nd Coating

Raw Materials

	Wt (g)
#11 Wrentham Slate	625.00
Clay ( )	18.76
Cu_2O (Purple Type HP3, Lot #5454,)	21.8921
ZnO (Kadox-920, Lot #011085, ZCA)	1.0938
Sodium Silicate (OxyChem 42,)	25.01
Water	12.26

3rd Coating

Raw Materials

	Wt (g)
#11 Wrentham slate	600.00
Clay ( )	12.02
LaPorte Carbon Black ( )	~~.525~~ 1.7271
Sodium Silicate (OxyChem 42,)	18.75
Water	4.27

Continued on Page

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Signed Date Signed Date

Continued From Page

Copper Coated Granules alw 1-38

* 30g Sugar / 35g Cu_2O

Round 1

Raw Materials

	wt (g)
#11 Wrentham Slate	1000.00
Air Floated Clay	30.00
Cu_2O (Purple Type HP3, Lot # 5454 Chemet)	35.0010
ZnO (Kadox 920, Lot # 011085 ZCA)	1.7570
Sodium Silicate (Oxychem 42)	40.00
Water	15.00
Panino Sugar (Superfine Cane Sugar)	30.00

Fired at 650°F

Round 2

Raw Materials

	wt (g)
Copper Coated Granules (Calw 1-38)	800.00
Air Floated Clay	16.00
Lampacte Carbon Black	2.2991
Sodium Silicate (Oxychem 42)	24.00
Water 13.00	~~5.00~~ 10.00

Fired at 650°F

* after Round 1 dry Cu_2O coated granules were mixed with 10ml water and tumbled for 10 minutes to break up the clumpy granules before applying the pigment coating.

* amount of water used in pigment coating was increased to help maximize coverage.

Continued on Page

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Copper Coated Growles alw1-48

Round 1

8 Kg Walnut Shell / 55g Cu_2O

Raw Materials	wt (g)
#11 Wrentham Slate	1000.00
Air Floated Clay	29.98
Cu_2O (Purple Tide HP3, Lot#5454, Chemet)	35.00
ZnO (Kadox 920 Lot# 011055, 2CA)	1.750
Sodium Silicate (Oxydem 42)	40.00
Water	250ml3.00
Walnut Shell #6	15.00

Fired at 650°F

Round 2

Raw Materials	wt (g)
Copper Coated Growles (alw1-48)	875.00
Clay	17.50
Laporte Carbon Black	2.57
Sodium Silicate	27.70
Water	N.00

Fired at <500°F

Continued on Page

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Normal PR Grounds trial

16 tons/hr production rate

- Variables only at normal plant
  ₹ 2444.96 per hour
- Total cost is ₹ 304 / hr, variable + fixed

⇒ Variable ₹ 15.31 per ton

30.00 base rate cost

16.00 minerals, royalty
₹ 61.31 per ton

For 30 tons, ⇒

Cost ⇒ ₹ 1,860 one cost

* Second cost : ₹ 15.31

12.00 lower normal cost

(no coppla) Variable cost / ~~Grand~~ Total ₹ 8.62 / ton

☆ Start at 9:30 pm, really start ~ 10 AM

4200 lb batch (4000 lbs base rock)

(w/ pigments 4.55% (w/))

Base rock	(1000)	4000		
Clay	(20)	80	[56]	
CuO (4.6%)	(50)	200		normal NW products
ZnO (0.16%)	(1.75)	7		is < 30 lb pigments
Silicate	(37.5)	~~120~~ 150	[60]	total solids 4347 lbs
H_2O	(15)	60	[0]	
Walnut shell	(15)	60		(Variation 2)

→ pigments not included

→ 1.38% ; ⇒ 15 g/kg base rock

Do 8 batches in a ~~row~~ row for CuO/ZnO, then 8 batches in a row for CuO/ZnO/walnut

Mixing time: 7.5 minutes

⇒ 8 batch ~ 1 hr

CuO ~~Cuno~~ comes in 1100 lb/bag

Walnut Shell in 2000 superssack

ZnO in 50 lb/bag

It's the minute mean time from the time the mixture drop do dropped to the belt to finished

The flame color is ~~gre~~ greenish rather than yellowish (standard) due to the emission color of CuO

Wilkcoy is ~ 5¢/lb (clay) ~ $100/ton

Silicate (40% solids) ~ 8¢/lb

(one transition from previous run)

After 3 batches of CuO/ZnO only, start the transition batch of 4 lbs.

This batch has 60 lbs walnut shell plus 50 lbs carbon blade pigment to make the transition.

The next 3 batches has only CuO/ZnO/walnut shell, of course no carbon blade.

Color granule 16 ton/hr ⇒ 400 ton/day ⇒ 17 ton/hr

24 hr/day, 5.5 day/wk

Produce 12 samples of Grade/Zone only

" 15 " " Grade/Zone/Walmart

Base paste color		no mats (Grade/Zone only)	w/ mats
L	34.67	+6.06	-4.88
a	1.44	+9.02	1.41
b	5.03	+5.08	-0.61
ΔE		11.99	5.11

"Alkalinity" per Tomi's method: 0.50 2.35

Color granules storage in shingles

25 tons per 6000 squares

NW AR granules – day 2

Coloring processing:

- Start w/ 2 bags of ~~non~~ no nut ~~[illegible]~~ granules, using NW 71 formula. Measure color
- Next, go to the granules w/ nuts; run all the bags. Measure color. NW71 formula starts

we've one more chance of changing pigments to ~~[illegible]~~ match 3M LR7000 color

- Finish off w/ the remaining no nuts granules.

* 2 bags in one batch of 4000 lbs

Each bag holds ~~1800~~ 1900 lbs – 2000 lbs

* start at 8 AM the coloring process

Load the bags to the conveyor belts, treating them as "std ~~any~~ base rate"

NW71 standard

Clay	80	(56)
M-Maple Tan 15	8.80	
120 Red	1.60	
Green Olive	0.70	
807 Dark blue	2.90	
	69.5	

W/O nuts, 1st 2 Dots:

$\Delta E = 3.6$.

So the new formulation for W/ no nuts:

Tan	7.00
Green Olive	1.50
Red	0.00
Blue	2.90 (no change)

The one W/ With nuts has $\Delta E = 3.90$, but visually, it's pretty good.

⇒ With nuts here, NW71 formula

Labeling :

Type I : No nuts

Type II : with nuts

Total AR granules

(1) Type 1, no nuts

4 pack, ~ 4 tons

(2) Type 2, with nuts

3 pack, ~ 3 tons

no mats, still hot

$\Delta L = -1.56$

$\Delta a = 1.57$

$\Delta b = 0.45$

$\Delta E = 2.26$

---

with mats mats, w still hot

$\Delta L = -3.78$, -3.17

$\Delta a = 0.96$, 1.63

$\Delta b = -0.24$, 0.73

$\Delta E = 3.90$ $\Delta E = 3.64$

NW 71 take $L = 34.67$

$a = 1.44$

$b = 5.03$

CR 1	CR 2
+4	+4
+2	+1
+4	+3

S: 58½
B: 16
J: 9½

TRIAL RUN 19B

M. Neves OT 4 4/6 IT 3 4/6
7369.0 / 7319.5 = 49.5 Wren

7432.7 / 7369.0 = 63.7 Base

Doherty OT 4 IT 4
7523.3 / 7432.7 = 90.6 Wren

Doherty OT 8 IT
7716.7 / 7523.3 = 193.4 Wren

(1.4) A Barbosa OT 1 3/4 IT 6 1/4
(4.6) 14 Batches FB-51 = 22.5 T

A Barbosa/ Da Silva OT 8 IT ø
64 Batches FB-51 = 132.5

DaSilva OT 8 IT
64 Batches FB-51 = 138.5

281.68

Finish Tanks
#1- 3
2- 3½
3- 7
11 Base- 20½
9 Base- 23

Rec'd 1½" Wren Rock @ terminal (30) 702.75 T
Del'd fines (10) 311.12 T
Del'd Base to FB6 186.3 T
Del'd Waste to FB6 3.0 T
Del'd FB 51 to FB6 (142 B) 293.5 T

S : 25½
B : 16
J : 10

CH1	CH2
+4	+4
+4	+2
+6	+2

TRIAL RUN

OT IT
Nevla 8
241.1
216.7 = 24.4 Wren
216
046.1 = 170.5 BASE

TRIAL (50.3) (1.4) (2.3)

C Balboa 3¾ 4¼
30 Batches FB-53 = 52.8 T

Cabalboa / OT IT
DaSilva 8 ∅
(2.1) 50 Batches FB-53 = 114.5
13 Batches FB-55 = 16.0

Nevla / OT IT
Daly 8 ∅
100.4
91.6 = 194.8 Wren

OT IT
Daly 8
244.9
106.4 = 138.5 Wren
41.3
44.9 = 46.4 BASE

OT IT
DaSilva 8
64 Batches FB-55 = 133.0

Fenoch Tanks
1 – 3
2 – 3½
3 – 12
11 BASE – 5
9 BASE – 12

30600

... 1½" Wren Kook c tunnel (20) 709.0 T
... fines to : (11) 341.3 T
... Base to FBG 155.8 T
... Waste to FBG (20.8 TRIAL) 26.6 T
... FB-53 to FBG 80 B (10.1 hrs) 167.3 T
... FB-55 to FBG 77 B (9.7 hrs) 149.0 T

(11) (12-) 7A

- The banana belt slopped again @ 3:20 pm. Got to change the DRIVE side ~~bearing~~ bearing - it's bad! Tony & Kevin changing it now.

@ 5:45 into .33 = 77' (31 = 45')

- (Reminder for Joe K.) I'll need Del Tie's P.M.'s Sunday in order to update (color code) the weekly P.M. (Sometime Tuesday - I'll need them)

7P-7A

- Sent over 68.6 Tons of Base to #1 & 2 silos.

- Making FB-93 going into silo #16-30' at 5:30 #15-15' #27-12'

7-3

ROOFING IS RUNNING APPROX 7200 BUNDLES OF LANDMARK 25 WEATHERWOOD AFTER THE COLONIAL SLATE. THEY WILL RUN IT TIL THEY ARE OUT OF CT-50 BLACK; THEN THEY WILL RUN COBBLESTONE UNTIL 6AM. (CHANGE OVER TO 30's)

F/K: WIXO (FULL) WASH ~~G~~ 4 (10 HOURS) G-10 (FULL B-1 (FULL)

[illegible] (FULL #3) BASE (FULL) [illegible] (FULL)

- [illegible] BLACK OF [illegible] [illegible]
SHOULD BE [illegible] [illegible]

NORTON COMPANY, L.EAVE ... THE GARAGE, ...

Al - Cotte - Johnson here a 1^{40} for the locker-room heater
Will call you 4 to 5 for Wed. A.M.

- I called shipping to set the Brodie guy in here for the fork lift that needs a [illegible] - Wednesday

- Substate is ordered for Wed.

#4 belt won't run - might be the AC TECH

DEAD, NO SPARES

→ Upon S/U @ FAK 4pm - top of wet el shifted 2'

for Del Trio: (1) change C-12A reducer oil
DWIGHT (2) replace the deduster feed pipe
(3) start putting the other 2 m... trunnions together

... 65 ... ; (17 - 56') (28 - 30') } saving ...

S/U FDW @ 4^{30} AM -

al -

al

7P-7A

- I had Delfino put a canvas over the little hopper over incoming belt.

- Delfino couldn't use new shafts for Trunnions because they were wrong size, so he used old shafts.

- Making FB-12 going into silo #6-40' at 5[30] #5-40'.

7-3

- SILICATE IN

FBK: ~~G-10 (till 1PM)~~ B-1 (10 Hours) CT-50 (till 7AM)
DBL WASH MACH → PREPARE FOR TRIAL RUN

FBW: WREN (FILL #3, #1, #3) BASE, WREN

- SEPTIC TANKS ARE GOING TO BE PUMPED OUT TOMORROW. WE EXPOSED THE COVERS TODAY.

Nelson - When I sent base over (this afternoon) & when Nelson went to lock out 9 & 11 base tanks - #9 base tanks valve rolled over opening - then closing. And when it opened some base was released. So give ~~the~~ the belt at least 4 minutes to clear after the lead man locks out the base valves.

- Set in 87.2 of base

Nelson - Please have Delfino change the shafts on 2 of the trunnions he did last night. He put them in backwards.